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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,343	08/01/2003	John B. Letts	P02030US2A(336)	3593
7590 07/12/2007 John M. Vasuta Chief Intellectual Property Counsel Bridgestone Americas Holding, Inc. 1200 Firestone Parkway Akron, OH 44317			EXAMINER COONEY, JOHN M	
			ART UNIT 1711	PAPER NUMBER
			MAIL DATE 07/12/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/632,343	<b>Applicant(s)</b> LETTS ET AL.	
	<b>Examiner</b> John m. Cooney	<b>Art Unit</b> 1711	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 March 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 30-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 30-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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Prosecution is reopened in light of applicants' arguments on appeal. The claims received in the reply dated 11/28/06 are the pending claims.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, and 30-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants' employment of the language that "the amount of nitrogen added...is an amount sufficient to..." in the methods of their claims is confusing as to intent because it is evident that other conditions such as pressure and temperature must necessarily be controlled in order to establish the conditions of the claims and the metes and bounds of applicants' claims can not be definitively determined. The metes and bounds of applicants' claims can not be definitively determined, because other criteria such as pressure and temperature need to be identified by the claims in order that the qualitative effects identified by the claims can have a definitive and determinable meaning from the standpoint of 35 USC 112 2<sup>nd</sup> paragraph.

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Claims 1 and 30-33, and 39-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims are confusing as to intent because the basis and conditions for determining the Bunsen coefficient values of the claims are not recited in the claims. While the ordinary practitioner can derive from the specification and original claims that the conditions utilized to determine the Bunsen Coefficient deviation values for the amounts of air set forth at page 10 of the supporting disclosure are used to determine the amounts of nitrogen dissolved in mixtures. However, the claims must recite the temperatures and pressures used to calculate these values (see page 10 line 29 of applicant's supporting disclosure where it is recited that the values disclosed are calculated at 75<sup>0</sup>C and 1 atmosphere pressure), and what component(s) from the method(s) the values are calculated from (the isocyanate reactive stream, the isocyanate stream, and/or the entire mixture). Support for any amendments indicating what streams the calculations are based must be shown to be provided for by the original supporting disclosure.

Claims 39-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 39-40 are further seen to be confusing as to intent, in addition to the above reasons, because the language "for nitrogen dissolved in the stream" is lacking.

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This omission further confuses determination of what claim elements the recited Bunsen Coefficient values of the claims are intended to be defining.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 39 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The recited volume increase value of claim 39 lacks support in the originally filed supporting disclosure. This is a new matter rejection.

The value recited at page 10 line 9 of the original supporting disclosure corresponds to air and not nitrogen, and the originally submitted claims do not provide support for this range of values for nitrogen like they do for the other ranges of values now claimed.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 30-31, 34-36, 39, and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Raynor et al.(3,882,052).

Raynor et al. discloses preparations of isocyanate-based rigid foams prepared by contacting streams of isocyanate component and a polyol component wherein contacting takes place in the presence of blowing agent and nitrogen gas to enhance the foaming action in amounts and to degrees sufficient to meet the requirements of applicants' claims (see the entire document).

As Raynor et al. provides for amounts of isocyanate being used in excess of isocyanate reactive component (see column 3 lines 13-17) difference based on applicants' recitation of "isocyanurate" in the preamble is not seen. This recitation in the preamble only requires that one isocyanurate linkage be present, and Raynor et al.'s disclosure of index values which provide for such linkages meets this requirement of the claims.

As to the amounts of nitrogen required to meet the limitations of applicants' claims, Raynor et al.(see column 4 lines 15-32) provides for specific inclusion of nitrogen in the embodiments of its disclosure. It is seen these amounts provided in the compositions of Raynor et al. and expelled under the pressure conditions of Raynor et al. would inherently result in the methods having nitrogen contained in the compositions to be expelled that would inherently possess the dissolved nitrogen concentration values of applicants' claims and inherently exhibit the expansion effects defined by

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applicants' claims upon expulsion from the mixer. Difference is not seen between the amounts of nitrogen disclosed and provided for by the teachings of Raynor et al. and those of applicants' claims based on the current evidence of record.

Claims 1 and 30-31, 34-36, 39, and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Wishneski et al.(5,264,464).

Wishneski et al. discloses preparations of isocyanate-based rigid foams prepared by contacting streams of isocyanate component and a polyol component wherein contacting takes place in the presence of blowing agent and nitrogen gas to enhance the foaming action in amounts and to degrees sufficient to meet the requirements of applicants' claims (see the entire document).

As Wishneski et al. provides for amounts of isocyanate being used in excess of isocyanate reactive component (see column 3 lines 12-14) difference based on applicants' recitation of "isocyanurate" in the preamble is not seen. This recitation in the preamble only requires that one isocyanurate linkage be present, and Wishneski et al.'s disclosure of index values which provide for such linkages meets this requirement of the claims.

As to the amounts of nitrogen required to meet the limitations of applicants' claims, Wishneski et al.(see column 7 lines 16-41) provides for specific inclusion of nitrogen in the embodiments of its disclosure. It is seen these amounts provided in the compositions of Wishneski et al. and expelled under the pressure conditions of



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Wishneski et al. would inherently result in the methods having nitrogen contained in the compositions to be expelled that would inherently possess the dissolved nitrogen concentration values of applicants' claims and inherently exhibit the expansion effects defined by applicants' claims upon expulsion from the mixer. Difference is not seen between the amounts of nitrogen disclosed and provided for by the teachings of Wishneski et al. and those of applicants' claims based on the current evidence of record.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 32, 33, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raynor et al. as applied to claim 1 and 30-31, 34-36, 39, and 40 above, and further in view of Volkert et al.(5,278,195)..

Raynor et al. differs from the claims in that it does not require alkane blowing agents, additionally or to the exclusion of haloalkanes, as claimed. However, Volkert et al. discloses alkanes (see column 10 lines 42-46) for their foaming effect in related isocyanate based formulations. Accordingly, it would have been obvious for one having



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ordinary skill in the art to have employed the alkanes disclosed by Volkert et al. within the teachings of Raynor et al. for the purpose of providing acceptable foam forming effects in order to arrive at the processes of applicants' claims with the expectation of success in the absence of a showing of new or unexpected results.

Claims 32, 33, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wishneski et al. as applied to claim 1 and 30-31, 34-36, 39, and 40 above, and further in view of Volkert et al.(5,278,195)..

Wishneski et al. differs from the claims in that it does not require alkane blowing agents, additionally or to the exclusion of haloalkanes, as claimed. However, Volkert et al. discloses alkanes (see column 10 lines 42-46) for their foaming effect in related isocyanate based formulations. Accordingly, it would have been obvious for one having ordinary skill in the art to have employed the alkanes disclosed by Volkert et al. within the teachings of Wishneski et al. for the purpose of providing acceptable foam forming effects in order to arrive at the processes of applicants' claims with the expectation of success in the absence of a showing of new or unexpected results.

Applicant's arguments with respect to claims 1 and 30-40 have been considered but are moot in view of the new ground(s) of rejection.

Applicants' arguments on appeal have been considered in light of the above rejections. However, it should be noted that the non-frothing mixtures as provided for by the prior art have not been distinguished from the claims based on the recited amount values currently claimed. The recitation of expansion "instantaneously" upon exit from the mixhead does not differentiate the claims from the expansion effected by the prior art upon release in the patentable sense because specific qualitative conditions of the immediate expansion have not been established in the claims.

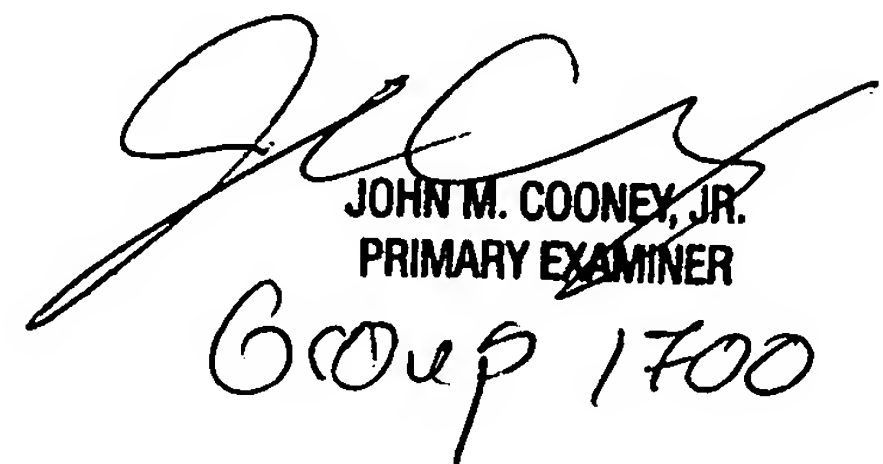
"Instantaneously", without further defining meaning being set forth in the claims does not differentiate the claims over the expansion upon exit from the mixers provided for by the prior art.

The claims do not provide clear and distinctive differences to be evident based on the amounts of nitrogen added and/or dissolved sufficient to distinguish over the amounts of nitrogen disclosed and/or provided for by the teachings of the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Cooney whose telephone number is 571-272-1070. The examiner can normally be reached on M-F from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck, can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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